

### **REMARKS**

Applicant respectfully requests reconsideration of this application, as amended herein. Claims 1-11 were pending in the application. In this amendment, Claims 1, 5, 8, 9, 10, and 11 have been amended and no new claims have been added. Therefore, Claims 1-11 are pending in the application.

### **References**

The Examiner has requested copies of the relevant pages of two references listed in the specification. Accompanying is an Information Disclosure Statement with the requested references.

### **Drawings**

The Examiner objected to the drawings because they include a reference character not mentioned in the detailed description. Applicant has amended the specification to add the reference character in the description in compliance with 37 C.F.R. §1.121(b).

The Examiner has also objected to the drawings in Figures 1B-1E as being too dark, making it unclear as to what is being presented. Applicant has canceled Figures 1B-1E and amended the specification accordingly to remove reference to the canceled figures. No new matter has been added to the remaining Figure 1.

### **The Objections**

The Examiner has objected to informalities in the specification. Applicant has amended the specification as suggested by the Examiner and respectfully requests that the objection be withdrawn.

The Examiner has objected to informalities in Claims 1, 5, 8, 9, 10 and 11 to avoid antecedent basis problems. Applicant has amended the claims as suggested by the Examiner and respectfully requests that the objection be withdrawn.

### **The Rejections under 35 U.S.C. § 112 ¶ 1**

The Examiner has rejected Claims 1-11 under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Applicant respectfully traverses the rejections. Applicant has amended Claims 1, 5, 8, 9, 10 and 11 to address each of the Examiner's indications of vague and indefinite claim language and to describe the claim limitations more accurately.

**The Rejections under 35 U.S.C. § 103(a)**

The Examiner has rejected Claims 1, 5, and 8-10 under 35 U.S.C. 103(a) as being unpatentable over Okumura et al., "A Computation of Power System Characteristic by General Homotopy and Investigation of its Stability" in view of Numerical Recipes, "Evaluation of Continued Fractions". Applicant respectfully traverses the rejections.

The term 'homotopy' was used to describe the technique used in the present invention to solve load flow equations from an initial no load condition to an objective load condition. Actually, the technique is a holomorphic embedding. Holomorphic functions are the central object of study of complex analysis. They are functions defined on an open subset of the complex number plane  $C$  with values in  $C$  that are complex-differentiable at every point. This is a much stronger condition than real differentiability and implies that the function is infinitely often differentiable and can be described by its Taylor series (Power series expansion). The equations described in the specification are unchanged, only the label to describe the technique has been corrected.

The Okumura et al. reference and the Numerical Recipes reference are directed to use of a homotopy and continued fractions. The present invention does not use a homotopy, nor does it use continued fractions. Rather it uses a holomorphic embedding and algebraic approximants. As Okumura et al. in combination with Numerical Recipes neither teach nor suggest such a method as claimed, Claims 1, 5, and 8-10 are patentably distinguished.

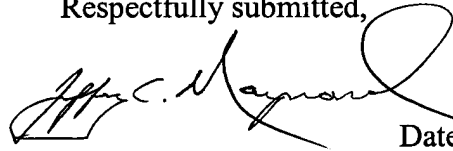
The Examiner has rejected Claims 2-4, 6, 7, and 11 under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. in view of Numerical Recipes and further in view of U.S. Patent Application Publication No. 2003/0040846 to Rehtanz et al. Applicant respectfully traverses the rejections.

As described above, Okumura et al. and Numerical Recipes are directed to use of a homotopy and continued fractions. The present invention does not use a homotopy, nor does it use continued fractions. Furthermore, there is no motivation or suggestion to combine the teachings of Okumura et al. and Numerical Recipes, nor to combine the teachings with Rehtanz et al. Accordingly, as described above, Claims 2-4, 6, 7, and 11 are patentably distinguished.

**CONCLUSION**

Applicant has made a diligent effort to address the objections and rejections identified by the Examiner, and respectfully submits that the outstanding objections and rejections in the Office Action have been overcome. In view of the above amendments and remarks, all pending claims are believed to be patentable, and thus, the case is in condition for allowance. Accordingly, a Notice of Allowability is respectfully requested at the Examiner's earliest convenience. In the event that there is any question concerning this response, or the application in general, Applicant respectfully requests that the Examiner contact Applicant's attorney at the telephone number listed below so that additional changes may be discussed.

Respectfully submitted,

 2/1/05  
Date

Jeffrey C. Maynard, Reg. No. 46,208  
Attorney for Applicants  
WHITEFORD, TAYLOR & PRESTON L.L.P.  
Seven Saint Paul Street  
Baltimore, Maryland 21202-1626  
Phone: 410-347-9496  
Fax: 410-347-9414